

TELEGRAPHS: 1927

INTRODUCTION

General description.—The census of land telegraphs and ocean-cable systems has been taken quinquennially since 1902, and, beginning with the inquiry for 1907, wireless systems have also been canvassed. The only census statistics for the telegraph industry for years prior to 1902 are those compiled and published at the decennial censuses of 1850 and 1880, which related to land systems only.

All the commercial systems in the United States are owned and operated by incorporated companies. The land (wire) and wireless commercial systems covered by this report are those operated in the United States exclusive of outlying possessions, and the commercial cable systems are those operated by companies incorporated in the United States. No statistics are given for press-association or newspaper traffic over private or leased wires.

The figures for railway telegraphs as given in Tables 9 and 11 relate solely to Class I railroads (those having annual operating revenues of \$1,000,000 or more). No data as to railway telegraphs are included in any of the other tables.

Statistics are given in Table 14 for the land and cable systems operated by the Government in outlying possessions, since these systems transacted commercial as well as Government business; and brief statistical and other information in regard to the Weather Bureau telegraph and telephone lines in the United States, some of which did a small amount of commercial business, is given on pages 21 and 23. No data have been compiled, however, in regard to the operations of Government wireless stations in the United States, for the reason that these stations handle little or no commercial business.

Period covered.—The statistics for income, expenses, and traffic relate to the calendar year 1927, except that the figures for Alaska, given in Table 14, refer to the fiscal year ended June 30. The figures for equipment and the balance sheet relate to December 31, 1927; the number of employees was reported by most companies as of June 30.

Financial statistics.—Under the accounting system introduced by the Interstate Commerce Commission for telegraph companies and adopted in considerable measure by the Bureau of the Census, more detailed financial data have been collected for land and ocean-cable telegraph companies for 1917, 1922, and 1927 than for preceding census years. It is not practicable to compile an income statement for wireless-telegraph companies.

An important consideration, so far as the telegraph and cable business is concerned, is the increase in salary and wage scales, for the reason that salaries and wages constitute more than three-fifths of the total expenses. (See Tables 4 and 6.) The total salaries and wages paid by the telegraph and cable systems increased by 74 per cent between 1917 and 1922 and by 30.7 per cent between 1922 and 1927, whereas the corresponding rates of increase in number of employees were only 6 per cent and 18.7 per cent, respectively.

TABLE 1.—COMBINED SUMMARY—LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS: 1907-1927
[The Western Union Telegraph Co., which operates both land and ocean-cable systems, is counted as two companies]

| | 1927 | 1922 | 1917 | 1912 | 1907 | PER CENT OF INCREASE OR DECREASE (-) | | | | |
|--|---------------|---------------|---------------|---------------|---------------|--------------------------------------|-----------|-----------|-----------|-----------|
| | | | | | | 1922-1927 | 1917-1922 | 1917-1927 | 1912-1917 | 1907-1912 |
| Number of companies or systems..... | 25 | 25 | 28 | 28 | 27 | 1.5 | 4.9 | 6.5 | -2.6 | 3.3 |
| Miles of pole line..... | 256,809 | 252,991 | 241,128 | 247,528 | 230,646 | 15.8 | -2.0 | 13.8 | 4.2 | 15.0 |
| Miles of single wire owned and leased..... | 2,146,470 | 1,853,250 | 1,890,245 | 1,814,196 | 1,577,961 | 38.0 | 7.7 | 48.6 | 5.3 | 46.2 |
| Nautical miles of ocean cable..... | 105,893 | 76,711 | 71,251 | 67,676 | 46,301 | 20.1 | 20.8 | 45.1 | 44.6 | 5.4 |
| Number of messages..... | 229,582,433 | 191,121,333 | 158,176,456 | 109,377,698 | 103,794,076 | 1.1 | -5.5 | -4.4 | -6.2 | 6.0 |
| Number of telegraph offices..... | 27,666 | 27,354 | 28,940 | 30,564 | 29,110 | 20.5 | 38.4 | 66.8 | 69.4 | 25.5 |
| Income, total..... | \$182,997,698 | \$151,868,086 | \$109,703,428 | \$64,762,843 | \$51,583,868 | 21.0 | 37.2 | 68.0 | 77.1 | 33.5 |
| Telegraph traffic..... | \$177,580,006 | \$146,805,215 | \$106,980,743 | \$60,403,009 | \$45,255,187 | 7.0 | 86.2 | 99.3 | -37.8 | -31.1 |
| All other sources..... | \$5,408,692 | \$5,062,871 | \$2,713,685 | \$4,359,834 | \$6,328,681 | 24.3 | 39.3 | 73.2 | 57.4 | 39.4 |
| Expenses, total..... | \$159,153,244 | \$127,990,615 | \$91,871,150 | \$63,378,952 | \$41,870,613 | 25.5 | 51.0 | 89.5 | 90.2 | 37.4 |
| General operation and maintenance, including salaries and wages and legal expenses..... | \$141,986,544 | \$113,139,825 | \$74,984,753 | \$46,780,041 | \$34,057,298 | 16.1 | 27.7 | 48.3 | 101.8 | 15.1 |
| Interest and taxes..... | \$11,688,520 | \$10,195,096 | \$7,981,786 | \$3,955,381 | \$3,436,690 | 14.4 | -48.0 | -40.5 | 17.2 | 74.3 |
| All other expenses..... | \$6,278,180 | \$4,655,754 | \$8,954,620 | \$27,643,530 | \$4,385,625 | -0.1 | 33.8 | 33.7 | 179.3 | -34.2 |
| Net income..... | \$23,844,454 | \$23,867,471 | \$17,832,269 | \$6,383,891 | \$9,704,255 | 32.5 | 9.2 | 44.6 | 58.9 | -17.3 |
| Dividends..... | \$14,199,089 | \$10,715,577 | \$9,817,211 | \$6,180,061 | \$7,477,083 | 24.7 | 26.6 | 57.8 | 21.7 | 13.9 |
| Balance sheet: | | | | | | | | | | |
| Assets, total..... | \$572,938,967 | \$469,469,284 | \$363,017,223 | \$298,288,006 | \$261,807,899 | 30.6 | 34.2 | 75.3 | 9.6 | 5.7 |
| Plant and equipment..... | \$426,646,742 | \$326,661,860 | \$243,358,432 | \$222,046,746 | \$210,045,959 | -33.7 | 40.7 | -6.7 | 65.1 | -7.0 |
| Investment and marketable securities, long-term advances, and miscellaneous investments..... | \$52,270,244 | \$78,838,774 | \$56,094,997 | \$33,933,670 | \$36,456,446 | 74.1 | -15.2 | 47.7 | 50.4 | 177.0 |
| Cash and current assets, including supplies and sundries..... | \$93,969,981 | \$63,968,650 | \$63,623,794 | \$42,308,481 | \$15,275,494 | | | | | |

| Liabilities, total..... | \$572, 938, 967 | \$459, 469, 284 | \$363, 017, 223 | \$298, 288, 906 | \$261, 807, 899 | 24.7 | 26.6 | 57.8 | 21.7 | 13.9 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|------|-------|-------|-------|-------|
| Capital stock..... | \$180, 094, 887 | \$177, 293, 778 | \$167, 260, 237 | \$163, 645, 810 | \$155, 089, 575 | 1.6 | 5.9 | 7.7 | 2.2 | 5.5 |
| Funded debt..... | \$97, 037, 000 | \$71, 394, 000 | \$61, 527, 549 | \$62, 741, 000 | \$69, 294, 000 | 35.9 | 15.5 | 56.9 | -1.5 | -3.8 |
| Reserves..... | \$118, 090, 572 | \$90, 222, 189 | \$53, 052, 948 | \$20, 803, 780 | \$8, 237, 963 | 30.8 | 68.1 | 119.9 | 157.9 | 151.9 |
| Accounts payable..... | \$23, 375, 074 | \$14, 712, 890 | \$21, 791, 729 | \$19, 755, 480 | \$10, 414, 379 | 68.9 | -32.5 | 7.3 | 10.3 | 89.7 |
| Interest, taxes, dividends, and rents, due and accrued, and sundries..... | \$41, 182, 237 | \$35, 419, 643 | \$23, 692, 025 | \$15, 492, 888 | \$2, 519, 043 | 16.3 | 40.5 | 73.8 | 52.9 | 515.0 |
| Net surplus..... | \$113, 219, 177 | \$70, 516, 784 | \$34, 782, 135 | \$15, 840, 948 | \$20, 325, 939 | 60.6 | 102.7 | 225.5 | 119.4 | -22.0 |
| Number of employees..... | 81, 498 | 68, 632 | 64, 723 | 44, 811 | 28, 094 | 18.7 | 6.0 | 25.9 | 44.4 | 59.8 |
| Salaries and wages..... | \$99, 520, 357 | \$76, 161, 926 | \$43, 764, 201 | \$24, 964, 994 | \$17, 808, 249 | 30.7 | 74.0 | 127.4 | 75.3 | 40.2 |

¹ Exclusive of pole line owned and operated wholly by railway companies, but including, for 1927, 2,089 miles, and for 1917, 116 miles, of pole line owned by ocean-cable systems.
² Exclusive of wire owned and operated wholly by railway companies, as follows: For 1927, 333,898 miles, for 1922, 285,002 miles, and for 1917, 344,110 miles, as reported by railway companies having annual operating revenues of \$1,000,000 or more; for 1912, 314,329 miles, as reported by all railway companies. No data for 1907.

³ Includes charges for depreciation.

⁴ Includes payments for use of leased lines.

⁵ Total income less all expenses, including depreciation; for 1927, 1922, and 1917, does not include charges for sinking and other reserve funds.

⁶ Includes sinking funds and stock and bond discount.

⁷ Includes floating debt.

⁸ Includes deferred non-interest-bearing obligations payable only on termination of leases and, for 1912, real-estate mortgages.

⁹ Number of employees includes 7,516 messengers, but their wages, which were not separately reported, are not included in the figure for salaries and wages.

COMPARISON OF COMMERCIAL LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS

This section presents combined summary statistics for commercial land and ocean-cable telegraph systems, and more detailed statistics for the two classes of systems separately, for 1927 only.

The statistics for equipment, number of employees, and salaries and wages are given separately for land and for ocean-cable companies in Tables 2 and 6. The detailed financial data, however, were not reported separately for the ocean-cable lines operated by the Western Union Telegraph Co., and accordingly it has been necessary, in Tables 3, 4, 5, 7, and 8, to include the financial data for the Western Union cable system with those for land systems.

Balance sheet (Table 5).—The total assets and the total liabilities include some duplication resulting from intercompany holdings of telegraph and cable securities. These intercompany holdings, which are included in the item "Investment and marketable securities and long-term advances," were not reported separately for 1927 and 1922, but the "stocks and bonds of other telegraph and cable companies" as reported for 1917 amounted to \$13,465,582, or approximately one-fourth of the total holdings of stocks and bonds of other companies (\$52,868,238).

Growth between 1907 and 1927.—The growth of the land-telegraph and ocean-cable business during the 20-year period covered by Table 1 (see p. 6) is illustrated by the following percentages of increase:

| | | | |
|--------------------------|-----|----------------------|-----|
| Plant and equipment..... | 103 | T otal income..... | 255 |
| Number of messages..... | 121 | T otal expenses..... | 280 |
| Number of employees..... | 191 | N et income..... | 145 |

TABLE 2.—EQUIPMENT AND TRAFFIC—LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS: 1927

[The Western Union Telegraph Co., which operates both land and ocean-cable systems, is counted as two companies]

| | Total | Land | Ocean |
|---|-------------|-------------|------------|
| Number of companies or systems..... | 25 | 18 | 7 |
| Miles of pole line, aggregate..... | 256,809 | 254,720 | 2,089 |
| Owned, total..... | 193,578 | 191,489 | 2,089 |
| On reporting company's right of way..... | 1,958 | 315 | 1,643 |
| On highway..... | 23,617 | 23,617 | 7 |
| On railway right of way..... | 168,003 | 167,564 | 439 |
| Leased, total..... | 63,231 | 63,231 | ----- |
| On lessor's right of way..... | ----- | ----- | ----- |
| On highway..... | 2,455 | 2,455 | ----- |
| On railway right of way..... | 60,776 | 60,776 | ----- |
| Miles of single wire, aggregate..... | 2,146,470 | 2,139,259 | 7,211 |
| Overhead, aggregate..... | 1,940,069 | 1,936,611 | 3,458 |
| Owned, total..... | 1,682,413 | 1,681,180 | 1,233 |
| On reporting company's right of way..... | 221 | 221 | ----- |
| On highway..... | 302,237 | 302,236 | 7 |
| On railway right of way..... | 1,378,955 | 1,378,729 | 1,226 |
| Leased, total..... | 257,656 | 256,431 | 2,225 |
| On lessor's right of way..... | 751 | 751 | ----- |
| On highway..... | 5,413 | 3,191 | 2,222 |
| On railway right of way..... | 251,492 | 251,489 | 3 |
| Underground..... | 290,811 | 167,958 | 3,753 |
| Submarine..... | 5,590 | 5,590 | ----- |
| Nautical miles of ocean cable..... | 165,893 | ----- | 165,893 |
| Number of offices or stations, aggregate..... | 27,666 | 27,530 | 136 |
| Operated solely by the company, exclusive of railway offices..... | 6,088 | 5,963 | 125 |
| Operated with other telegraph and cable companies..... | 39 | 28 | 11 |
| Operated with telephone companies..... | 3 | 3 | ----- |
| Railway offices, total..... | 21,536 | 21,536 | ----- |
| Operated solely by telegraph companies..... | 87 | 87 | ----- |
| Operated jointly by telegraph and railway companies..... | 21,449 | 21,449 | ----- |
| Number of messages sent, total..... | 229,582,433 | 216,595,494 | 13,986,939 |
| Government..... | 2,731,932 | 2,657,412 | 74,520 |
| Full commercial rate..... | 214,164,455 | 200,380,684 | 13,783,771 |
| Contract and free..... | 12,686,036 | 12,557,396 | 128,638 |

TABLE 3.—INCOME STATEMENT—LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS: 1927

[The financial data for the ocean-cable system operated by the Western Union Telegraph Co. are included with those for land systems, no segregation of the financial data for the cable business of this company having been made]

| ACCOUNT | Total | Land | Ocean |
|---|---------------|---------------|--------------|
| <i>1.—Operating income</i> | | | |
| Telegraph and cable operating revenues..... | \$177,589,096 | \$150,682,419 | \$17,906,677 |
| Telegraph and cable operating expenses..... | 141,986,544 | 131,320,555 | 10,665,989 |
| Net operating revenues..... | 35,602,552 | 28,361,864 | 7,240,688 |
| Taxes assignable to operation..... | 7,064,545 | 6,181,805 | 882,740 |
| Operating income..... | 28,538,007 | 22,180,059 | 6,357,948 |
| <i>2.—Nonoperating income</i> | | | |
| Income from lease of plant..... | 214,279 | 214,279 | — |
| Dividend income..... | 1,388,721 | 1,108,025 | 282,696 |
| Interest income..... | 3,083,612 | 1,477,879 | 1,605,733 |
| Miscellaneous nonoperating income..... | 736,900 | 879,650 | 357,340 |
| Nonoperating income..... | 5,408,602 | 3,177,933 | 2,230,669 |
| Gross income..... | 33,946,609 | 25,357,992 | 8,588,617 |
| <i>3.—Deductions from gross income</i> | | | |
| Rent for lease of plant..... | 3,599,610 | 3,599,610 | — |
| Interest accrued..... | 4,773,975 | 4,557,933 | 216,042 |
| Miscellaneous rentals..... | 944,537 | 613,938 | 430,599 |
| Miscellaneous deductions..... | 784,033 | 596,896 | 187,137 |
| Total deductions from gross income..... | 10,102,155 | 9,268,377 | 833,778 |
| Net income..... | 23,844,454 | 16,089,615 | 7,754,839 |
| <i>4.—Disposition of net income</i> | | | |
| Dividends..... | 16,218,303 | 1210,706 | 0,007,597 |
| Appropriations for other purposes..... | 487,645 | 487,645 | — |
| Total appropriations of net income..... | 6,705,848 | 698,251 | 6,007,597 |
| Balance carried to surplus..... | 17,138,606 | 15,391,364 | 1,747,242 |

¹ In addition, dividends amounting to \$7,980,786 were declared from surplus.

TABLE 4.—EXPENSE STATEMENT—LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS: 1927

[The financial data for the ocean-cable system operated by the Western Union Telegraph Co. are included with those for land systems, no segregation of the financial data for the cable business of this company having been made]

| ACCOUNT | Total | Land | Ocean |
|--|---------------|---------------|--------------|
| Total..... | \$159,153,244 | \$146,770,737 | \$12,382,507 |
| Maintenance expenses ¹ | 35,670,703 | 32,594,677 | 3,076,126 |
| Conducting operations ² | 98,041,953 | 92,849,222 | 5,192,731 |
| General and miscellaneous operating expenses ³ | 7,673,888 | 5,870,756 | 1,797,132 |
| Taxes assignable to operations..... | 7,064,545 | 6,181,805 | 882,740 |
| Rent for lease of plant..... | 3,599,610 | 3,599,610 | — |
| Interest on funded and floating debt..... | 4,773,975 | 4,557,933 | 216,042 |
| Rentals of conduits, underground privileges, land, poles, and wires..... | 944,537 | 513,938 | 430,599 |
| All other expenses..... | 784,033 | 596,896 | 187,137 |

¹ Includes supervision of maintenance, repairs and depreciation, and cost of testing and regulating apparatus.

² Includes supervision of operations; salaries of operators, clerks, and messengers; cost of operating power and supplies; office expenses; commissions; etc.

³ Includes salaries of general officers and clerks and expenses for law, accidents, damages, franchises, etc.

TABLE 5.—BALANCE SHEET—LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS: 1927

[The financial data for the ocean-cable system operated by the Western Union Telegraph Co., are included with those for land systems, no segregation of the financial data for the cable business of this company having been made]

| ACCOUNT | Total | Land | Ocean |
|--|---------------|---------------|---------------|
| ASSETS | | | |
| Total..... | \$572,938,967 | \$412,729,174 | \$160,218,793 |
| Plant and equipment..... | 426,698,742 | 328,143,146 | 88,555,596 |
| Investment and marketable securities and long-term advances..... | 50,614,247 | 11,172,599 | 39,441,648 |
| Miscellaneous investments..... | 1,655,997 | 1,393,997 | 262,000 |
| Materials and supplies..... | 9,543,484 | 7,706,138 | 1,837,346 |
| Cash and current assets..... | 78,807,445 | 50,046,817 | 28,760,628 |
| Sinking and other special funds..... | 2,653,494 | 2,280,330 | 373,164 |
| Sundries..... | 2,965,556 | 1,976,947 | 988,611 |
| LIABILITIES | | | |
| Total..... | 572,938,967 | 412,729,174 | 160,218,793 |
| Capital stock..... | 180,094,887 | 104,472,107 | 75,622,780 |
| Funded and long-term debt..... | 97,637,000 | 92,872,699 | 4,195,000 |
| Floating debt (loans and notes payable)..... | 2,491,691 | | 2,491,691 |
| Reserves (depreciation and other)..... | 118,030,572 | 64,606,438 | 53,424,134 |
| Accounts payable..... | 20,883,383 | 18,896,482 | 1,986,901 |
| Interest, taxes, dividends, and rents, due and accrued..... | 17,408,102 | 15,314,144 | 2,093,958 |
| Sundries..... | 23,774,155 | 23,772,647 | 1,506 |
| Net surplus..... | 113,219,177 | 92,786,356 | 20,432,821 |

TABLE 6.—EMPLOYEES, SALARIES, AND WAGES—LAND AND OCEAN-CABLE TELEGRAPH SYSTEMS: 1927

[Statistics for Western Union cable employees, having been reported separately, are included with those for ocean systems]

| | Total | Land | Ocean |
|---|--------------|--------------|-------------|
| Employees: | | | |
| Total number..... | 61,495 | 74,963 | 6,532 |
| Total salaries and wages..... | \$22,520,257 | \$29,953,975 | \$9,636,582 |
| Salaries: | | | |
| Number..... | 26,190 | 24,127 | 2,063 |
| Salaries..... | \$28,233,298 | \$34,378,679 | \$3,914,628 |
| Salaries— | | | |
| Number..... | 90 | 40 | 50 |
| Salaries..... | \$870,066 | \$498,195 | \$371,871 |
| Superintendents and managers— | | | |
| Number..... | 2,416 | 2,156 | 260 |
| Salaries..... | \$5,731,587 | \$4,736,226 | \$995,361 |
| Clerks, stenographers, and other salaried employees— | | | |
| Number..... | 23,664 | 21,951 | 1,713 |
| Salaries..... | \$31,681,045 | \$26,144,249 | \$5,536,796 |
| Wage earners: | | | |
| Number..... | 55,306 | 50,776 | 4,530 |
| Wages..... | \$61,227,659 | \$53,605,305 | \$7,622,354 |
| Operators— | | | |
| Number..... | 20,555 | 24,900 | 1,655 |
| Wages..... | \$23,010,551 | \$25,906,380 | \$2,204,291 |
| Male— | | | |
| Number..... | 14,196 | 12,693 | 1,503 |
| Wages..... | \$24,040,261 | \$20,924,396 | \$3,115,865 |
| Female— | | | |
| Number..... | 12,357 | 12,206 | 152 |
| Wages..... | \$14,964,290 | \$14,981,979 | \$2,208,426 |
| Other wage earners— | | | |
| Number..... | 28,753 | 25,876 | 2,877 |
| Wages..... | \$22,236,508 | \$19,798,945 | \$2,437,563 |

COMMERCIAL AND RAILWAY LAND TELEGRAPH SYSTEMS

Commercial systems.—The following-named commercial telegraph companies reported for 1927:

Canadian Pacific (lines in the United States).
 Central Idaho, of Weiser, Idaho.
 Cleveland, of Chicago, Ill.
 Colorado & Wyoming, of Denver, Colo.
 Continental, of Chicago, Ill.
 Canadian National Telegraphs (lines in the United States).
 Comprising { Grand Trunk Pacific Telegraph Co.
 { Great Northwestern Telegraph Co.
 Louisburg, of Franklinton, N. C.
 Mountain, of Denver, Colo.
 North American, of Minneapolis, Minn.
 Northern, of Bangor, Me.
 Philadelphia, Reading & Pottsville, of Philadelphia, Pa.
 Pittsboro, of Pittsboro, N. C.
 Postal Telegraph-Cable System (land lines only).
 Put-in-Bay, of Put-in-Bay, Ohio.
 St. Johnsbury & Lake Champlain Railroad Co., of St. Johnsbury, Vt.
 Stock Quotation, of New York, N. Y.
 United Telegram Co., of Boston, Mass.
 Western Union System.

Of the 19 land-telegraph companies reporting for 1922, one, the Marthas Vineyard Telegraph Co., discontinued operations prior to 1927. The Vermont International of St. Johnsbury, Vt., was succeeded by the St. Johnsbury & Lake Champlain Railroad and the Postal Telegraph Cable System is now a part of the Mackay Companies.

Line and wire mileage.—The following statement shows the line and the wire mileage for land-telegraph companies as reported for 1852 and 1880 (in connection with the decennial censuses of 1850 and 1880, respectively) and for each of the quinquennial census years. (As explained in the introduction, the only statistics for years prior to 1902 are those for 1852 and 1880.)

| YEAR | Miles of pole line | Miles of single wire | YEAR | Miles of pole line | Miles of single wire |
|-----------|--------------------|----------------------|-----------|--------------------|----------------------|
| 1852..... | 16, 735 | 23, 281 | 1912..... | 247, 528 | 1, 814, 196 |
| 1880..... | 110, 727 | 291, 213 | 1917..... | 241, 012 | 1, 888, 793 |
| 1902..... | 237, 990 | 1, 307, 046 | 1922..... | 252, 991 | 1, 849, 312 |
| 1907..... | 234, 046 | 1, 577, 961 | 1927..... | 254, 720 | 2, 139, 259 |

Increase in business, in number of offices, and in wire mileage (Table 7).—The amount of business done, measured either by number of messages sent or by income from telegraph traffic, shows a substantial increase for the period 1922–1927. The total number of telegraph offices decreased somewhat between 1917 and 1922, chiefly because of a reduction in the number of railway telegraph offices operated for commercial business, but increased between 1922 and 1927, although the number of railway telegraph offices shows a decrease for the same period. The wire mileage shows a substantial increase over that of former years. The

overhead mileage increased from 1,714,211 to 1,936,611 and the underground increased from 127,475 to 197,058. (See Table 2 for 1927 figures.)

"Plant and equipment" and "Funded debt" (Table 7).—As explained in footnotes 7 and 10, Table 7, these items as reported by ocean-cable companies for 1917 included \$20,000,000 which actually represented land-line plant and equipment owned by one of the cable companies. In compiling the statistics for 1922 and 1927 this amount has been included in the land-line figures and excluded from those for ocean-cable systems.

Long-distance telephone business over telegraph wires.—According to the annual report of the Postal Telegraph-Cable Co. for 1927, as published in "Poor's," there has been a considerable development of long-distance telephone business over telegraph wires in the South and West. This telephone traffic, which does not interfere with the simultaneous transmission of telegraphic messages, may be regarded as a "by-product."

Railway and commercial telegraph lines on railway right of way (Table 9).—The track mileage shown in this table covers the trackage of all railroads of Class I, including six which reported no telegraph lines along their right of way. The reports show an increase amounting to 16,430 miles, or 7.5 per cent, in total pole-line mileage in 1927 as compared with 1922. The wire mileage increased 93,641, or 6.3 per cent.

Telephone wire on railway right of way.—The railroads could not in all cases supply complete data regarding mileage of commercial wire along their lines. Some of the telegraph pole line reported by the Class I railroads carried telephone wire also, and 29,574 miles of additional pole line designated as "telephone" doubtless carried part of the telegraph wire. The total telephone wire mileage on the right of way of Class I railroads was reported as 684,576. Of this amount, the railroads owned 512,886 miles outright and 6,963 miles jointly with telephone and other nonrailway companies; and the mileage of telephone wire operated either solely by the railroads or jointly by the railroads and other companies amounted to 519,849, or more than three-fourths of the total.

Train dispatchers and railroad telegraph operators.—The census inquiry did not call for data regarding railroad operators or their wages; but the following statement relating to train dispatchers and telegraph operators employed by Class I railroads has been prepared from reports of the Interstate Commerce Commission:

TRAIN DISPATCHERS AND TELEGRAPH OPERATORS, CLASS I RAILROADS

| | 1927 | 1922 | 1917 | 1912 |
|-------------|---------------|---------------|--------------|--------------|
| Number..... | 58,734 | 64,794 | 63,910 | 41,645 |
| Wages..... | \$120,439,308 | \$118,282,579 | \$63,718,334 | \$34,193,100 |

The methods of classifying these employees have been such that it is impossible to show separately the exact number of telegraph operators; and, because of changes in classification, it is likely that the figures for 1912 are not strictly comparable with those for 1917, 1922, and 1927. The grouping for 1927 was as follows:

TRAIN DISPATCHERS AND TELEGRAPH OPERATORS, CLASS I RAILROADS: 1927

| | Number | Wages |
|--|--------|---------------|
| Total..... | 58,734 | \$120,439,308 |
| Chief train dispatchers..... | 5,292 | 17,287,787 |
| Chief telegraphers and telephoners or wire chiefs..... | 833 | 2,110,069 |
| Telegraphers, telephoners, and towermen..... | 20,275 | 44,403,953 |
| Clerk-telegraphers and clerk-telephoners..... | 13,531 | 23,632,549 |
| Station-agent telegraphers and telephoners..... | 18,803 | 33,004,920 |

Train dispatching by telegraph and by telephone (Table 11).—A considerable increase is shown between 1922 and 1927 in the use of the telephone and a corresponding decrease in the use of the telegraph for train dispatching. Of the 165 railroads of Class I which reported for 1927, 38 used the telegraph only, 44 used the telephone only, 74 used the telegraph only on parts of their lines and the telephone only on the remainder, and 9 used the telephone and the telegraph jointly or interchangeably over all or parts of their lines. The proportion of the total mileage dispatched by telephone only increased from 46.6 per cent in 1922 to 57.4 per cent in 1927.

The use of "printing telegraphs" by the railroads increased somewhat between 1922 and 1927. Only 8 lines or parts of systems reported this type of telegraph for 1922, but 11 other railroads adopted it within the 5-year period, making a total of 19 which were using the printing telegraph in 1927. These 19 railroads reported 129 circuits, comprising 25,991 miles of wire, in operation with printing telegraph instruments.

No railroad reported the use of radio for train dispatching in 1927.

TABLE 7.—SUMMARY—LAND TELEGRAPH SYSTEMS: 1917-1927

(Includes financial data for the ocean-cable system operated by the Western Union Telegraph Co., no segregation of the financial data for the cable business of this company having been made)

| | 1927 | 1922 | 1917 | PER CENT OF INCREASE OR DECREASE (—) | | |
|--|---------------|---------------|---------------|---|---------------|---------------|
| | | | | 1922- 1927 | 1917- 1922 | 1917- 1927 |
| Number of companies or systems..... | 18 | 19 | 21 | | | |
| Miles of pole line ¹ | 254,720 | 252,991 | 241,012 | 0.7 | 5.0 | 5.7 |
| Miles of single wire, owned and leased ² | 2,130,260 | 1,845,237 | 1,888,793 | 15.9 | -2.3 | 13.3 |
| Number of messages ³ | 215,595,494 | 181,518,774 | 151,725,228 | 18.8 | 19.6 | 42.1 |
| Number of telegraph offices..... | 27,530 | 27,214 | 28,829 | 1.2 | -5.6 | -4.6 |
| Income, total..... | \$162,840,352 | \$130,538,660 | \$92,954,370 | 24.8 | 40.4 | 75.2 |
| Telegraph traffic..... | \$159,682,419 | \$128,630,859 | \$91,312,567 | 24.1 | 40.9 | 74.9 |
| All other sources..... | \$3,177,933 | \$1,907,801 | \$1,641,803 | 66.6 | 16.2 | 93.6 |
| Expenses, total..... | \$146,770,737 | \$114,563,901 | \$80,828,970 | 27.8 | 42.1 | 81.6 |
| General operation and main- tenance, including salaries and wages and legal ex- penses ⁴ | \$131,320,555 | \$102,010,773 | \$66,959,295 | 28.7 | 52.3 | 96.1 |
| Interest and taxes..... | \$10,739,738 | \$8,712,911 | \$5,511,747 | 23.3 | 58.1 | 94.9 |
| All other expenses ⁵ | \$4,710,444 | \$4,140,217 | \$8,357,928 | 13.8 | -50.5 | -43.6 |
| Net income ⁶ | \$16,089,615 | \$15,674,759 | \$12,125,400 | 2.6 | 29.3 | 32.7 |
| Dividends..... | \$8,191,492 | \$7,142,771 | \$7,166,514 | 14.7 | -0.3 | 14.3 |
| Balance sheet: | | | | | | |
| Assets, total..... | \$412,720,174 | \$321,912,658 | \$226,406,952 | 28.2 | 42.2 | 82.3 |
| Plant and equipment..... | \$338,143,146 | \$254,029,933 | \$163,487,637 | 33.1 | 55.4 | 106.8 |
| Investment and market- able securities, long- term advances, and miscellaneous invest- ments..... | \$12,566,596 | \$31,874,833 | \$29,564,702 | -60.6 | 7.8 | -57.5 |
| Cash and current assets, including supplies and sundries ⁷ | \$62,010,432 | \$36,007,892 | \$33,354,613 | 72.2 | 8.0 | 85.9 |
| Liabilities, total..... | \$412,720,174 | \$321,912,658 | \$226,406,952 | 28.2 | 42.2 | 82.3 |
| Capital stock..... | \$104,472,107 | \$104,465,778 | \$106,360,237 | (?) | -1.8 | -1.8 |
| Funded debt..... | \$92,872,000 | \$67,394,000 | \$33,827,549 | 37.8 | 99.2 | 174.5 |
| Reserves..... | \$64,606,438 | \$46,773,260 | \$20,627,340 | 38.1 | 126.8 | 213.2 |
| Accounts payable ⁸ | \$18,896,482 | \$10,691,564 | \$16,829,137 | 76.7 | -36.5 | 12.3 |
| Interest, taxes, dividends, and rents, due and ac- crued, and sundries ⁹ | \$39,088,791 | \$29,738,826 | \$20,194,729 | 31.4 | 47.8 | 93.5 |
| Net surplus..... | \$92,786,356 | \$62,849,230 | \$28,567,960 | 47.6 | 120.0 | 224.8 |
| Number of employees..... | 74,903 | 62,299 | 60,376 | 20.2 | 3.2 | 24.1 |
| Salaries and wages..... | \$89,982,975 | \$68,736,763 | \$40,512,480 | 30.9 | 69.7 | 122.1 |

¹ Exclusive of pole line owned and operated wholly by railway companies, and of pole line owned by ocean-cable systems, the latter amounting to 2,089 miles for 1927, and 116 miles for 1917.

² Exclusive of the following items: Ocean cable operated by Western Union Telegraph Co.—1927, 35,944 nautical miles; 1922, 24,281 nautical miles; 1917, 24,301 nautical miles. Wire owned and operated wholly by railway companies having annual operating incomes of \$1,000,000 or more—1927, 333,898 miles; 1922, 285,002 miles; 1917, 344,110 miles. Land wire of cable companies reporting separately—1927, 7,211 miles; 1922, 8,013 miles; 1917, 1,452 miles.

³ Does not include ocean-cable messages nor land messages sent over leased land wire by a wireless company in 1927 and 1922.

⁴ Includes charges for depreciation; does not include payments for use of leased lines.

⁵ Includes payment for use of leased lines.

⁶ Total income less all expenses, including depreciation; does not include charges for sinking and other reserve funds.

⁷ Not including data for land-line-system plant and equipment, to the value of \$20,000,000, reported as cable system plant and equipment for 1917. (See "Plant and equipment and funded debt," p. 13.)

⁸ Includes sinking funds and stock and bond discount.

⁹ Less than one-tenth of 1 per cent.

¹⁰ Not including data for land-line-system funded debt to the amount of \$20,000,000, reported as cable-system indebtedness for 1917. (See "Plant and equipment and funded debt," p. 13.)

¹¹ Includes floating debt.

¹² Includes deferred non-interest-bearing obligations payable only on termination of leases.

TABLE 8.—CONDENSED INCOME STATEMENT—LAND TELEGRAPH SYSTEMS: 1917-1927

[Includes financial data for the ocean-cable system operated by the Western Union Telegraph Co., no segregation of the financial data for the cable business of this company having been made]

| ACCOUNT | 1927 | 1922 | 1917 | PER CENT OF INCREASE OR DECREASE (—) | | |
|--|----------------------|----------------------|------------------------|---|---------------|------------------|
| | | | | 1922- 1927 | 1917- 1922 | 1917- 1927 |
| Telegraph and other operating revenues..... | \$159,682,419 | \$128,639,074 | \$91,312,567 | 24.1 | 40.9 | 74.9 |
| Telegraph and other operating expenses..... | 131,320,555 | 102,016,076 | 70,514,697 | 28.7 | 44.7 | 86.2 |
| Net operating revenues..... | 28,361,864 | 26,622,998 | 20,797,870 | 6.5 | 28.0 | 36.4 |
| Taxes assignable to operation..... | 6,181,805 | 5,572,704 | 4,991,687 | 10.9 | 38.2 | 51.2 |
| Operating income..... | 22,180,059 | 21,050,294 | 16,706,183 | 5.4 | 20.0 | 32.8 |
| Nonoperating income..... | 3,177,933 | 1,899,566 | 1,641,803 | 67.3 | 15.7 | 93.6 |
| Income from lease of plant..... | 214,279 | | 134,501 | | | 59.3 |
| Dividends and interest on stocks and bonds of other companies..... | 2,584,094 | 1,609,045 | 1,474,571 | 60.6 | 9.1 | 75.2 |
| Miscellaneous..... | 370,650 | 290,541 | 32,731 | 30.7 | 787.7 | (¹) |
| Gross income..... | 25,357,992 | 22,949,880 | 18,347,986 | 10.5 | 25.1 | 38.2 |
| Deductions from gross income, total..... | 9,268,377 | 7,275,121 | 6,222,586 | 27.4 | 16.9 | 43.9 |
| Rent of leased lines..... | 3,599,610 | 3,081,922 | 3,575,252 | 16.8 | -13.8 | 0.7 |
| Interest..... | 4,557,933 | 3,140,207 | ² 1,420,060 | 43.1 | 121.1 | 221.0 |
| Miscellaneous rentals and deduc- tions..... | 1,110,834 | 1,062,992 | 1,227,274 | 5.5 | -14.2 | -9.5 |
| Net income..... | 16,089,615 | 15,674,759 | 12,125,400 | 2.6 | 29.3 | 32.7 |
| Disposition of net income: | | | | | | |
| Dividends..... | ³ 210,706 | ³ 160,077 | ³ 183,218 | 31.6 | -12.6 | 15.0 |
| Appropriations for construction and other purposes..... | 487,545 | 3,598,583 | | -83.1 | | |
| Surplus, including appropriations for sinking and other reserve funds..... | 15,391,364 | 12,006,099 | 11,942,184 | 28.2 | 0.5 | 28.9 |

¹ Per cent not shown when increase is greater than 1,000.

² Not including interest on \$20,000,000 funded debt of land-line systems carried in statistics for ocean-cable systems. (See "Plant and equipment and funded debt," p. 13.)

³ In addition, dividends amounting to \$7,980,786 for 1927, \$6,982,604 for 1922, and \$6,982,298 for 1917, were declared from surplus.

TABLE 9.—RAILWAY AND COMMERCIAL TELEGRAPH LINE AND WIRE ON RIGHT OF WAY OF CLASS I RAILROADS:¹ 1927

| | Number | | Number |
|---|---------|--|-----------|
| Number of systems or lines reporting..... | 145 | Miles of single wire owned, total..... | 1,568,668 |
| Miles of single track..... | 238,874 | By railway companies..... | 374,852 |
| Miles of pole line owned, total..... | 236,186 | Jointly by railway and telegraph companies..... | 55,137 |
| By railway companies..... | 84,719 | By telegraph and other nonrailway companies..... | 1,138,679 |
| Jointly by railway and telegraph companies..... | 25,486 | Miles of single wire operated, total..... | 1,568,668 |
| By telegraph and other nonrailway companies..... | 125,981 | By railway companies..... | 545,730 |
| Miles of pole line operated, total..... | 234,186 | Jointly by railway and telegraph companies..... | 13,378 |
| By railway companies..... | 101,467 | By telegraph and other nonrailway companies..... | 1,009,560 |
| Jointly by railway and telegraph companies..... | 37,875 | Miles of single wire owned wholly and operated wholly by railway companies..... | 333,898 |
| By telegraph and other nonrailway companies..... | 94,844 | | |

¹ Railroads having annual operating incomes of \$1,000,000 or more.

TABLE 10.—COMMERCIAL TELEGRAPH LINE AND WIRE ON RAILWAY RIGHT OF WAY, BY COMPANIES: 1927

[The statistics in this table relate to line and wire mileage along rights of way of railroads of all classes]

| COMPANY | MILES OF POLE LINE | | | MILES OF WIRE | | |
|--|--------------------|---------|----------------------|---------------|-----------|----------------------|
| | Total | Owned | Leased or controlled | Total | Owned | Leased or controlled |
| Total..... | 228,340 | 167,504 | 60,776 | 1,630,218 | 1,378,729 | 251,489 |
| Western Union..... | 209,001 | 152,930 | 56,071 | 1,494,550 | 1,262,591 | 231,959 |
| Postal Telegraph-Cable..... | 12,132 | 12,132 | | 98,337 | 98,337 | |
| North American..... | 1,684 | 628 | 1,056 | 11,356 | 6,402 | 4,954 |
| Continental..... | 2,723 | | 2,723 | 14,321 | | 14,321 |
| Philadelphia, Reading, & Pottsville..... | 937 | 937 | | 4,878 | 4,878 | |
| Other telegraph companies..... | 1,893 | 937 | 926 | 6,770 | 6,521 | 256 |

TABLE 11.—TRAIN DISPATCHING BY TELEGRAPH AND TELEPHONE, FOR CLASS I RAILROADS: 1927, 1922, AND 1917

| METHOD | NUMBER OF SYSTEMS OR LINES REPORTING | | | MILES OF ROAD DISPATCHED | | |
|------------------------------------|--------------------------------------|------------------|------------------|--------------------------|---------|------------------|
| | 1927 | 1922 | 1917 | 1927 | 1922 | 1917 |
| Total..... | 165 | 166 | 137 | 228,896 | 222,664 | 220,143 |
| Telegraph..... | ¹ 114 | ¹ 132 | 120 | 93,842 | 114,216 | 124,875 |
| Telephone..... | ² 119 | ³ 111 | 100 | 131,301 | 108,836 | 95,268 |
| Joint telegraph and telephone..... | ⁴ 9 | ⁴ 26 | (⁵) | 3,753 | 4,613 | (⁵) |

¹ Railroads having annual operating incomes of \$1,000,000 or more.² Telegraph only over entire line, 28 in 1927 and 43 in 1922; telegraph only over part of line and telephone only over remainder, 74 in 1927 and 72 in 1922; telegraph and telephone jointly or interchangeably over part of line and telegraph over all or part of remainder, 2 in 1927 and 17 in 1922.³ Telephone only over entire line, 44 in 1927 and 25 in 1922; telephone only over part of line and telegraph only over remainder, 74 in 1927 and 72 in 1922; telegraph and telephone jointly or interchangeably over part of line and telephone only over all or part of remainder, 1 in 1927 and 14 in 1922.⁴ Telegraph and telephone jointly or interchangeably over entire line, 3 in 1927 and 4 in 1922; telegraph and telephone jointly or interchangeably over part of line and either telegraph only or telephone only over remainder, or telegraph only and telephone only over separate parts of remainder, 6 in 1927 and 22 in 1922.⁵ No data.

COMMERCIAL CABLE SYSTEMS

The statistics presented under this head relate only to commercial cable companies incorporated in the United States. These are—

All American Cables (Inc.).
Commercial Cable Co. of Cuba.
Commercial Cable Co. of New York.
Commercial Pacific Cable Co.
Mexican Telegraph Co.
United States & Haiti Telegraph & Cable Co.

The Commercial Cable Co. of Cuba, the Commercial Cable Co. of New York, the Commercial Pacific Cable Co., and the Postal-Telegraph Cable Co. (land-line system only) together constitute the Mackay Companies.

As already explained (p. 8), the Western Union Cable System financial statistics are included with those for land systems.

Comparability of statistics for 1917 with those for 1922 and 1927.—The figures for 1917, as given in Table 12, are not strictly comparable with those for 1922 and 1927, for the reason that they do not include the number of local messages handled wholly outside the United States for one company which operated in connection with another in dispatching through traffic to and from the United States, and also do not include the number of foreign employees of that company nor the amount of their salaries and wages. Between 1917 and 1922, however, these two companies combined, and their reports for 1922 and 1927 covered all messages handled, including local messages in foreign countries, all employees, and all salary and wage payments. For 1917 the omitted data for messages, employees, and salaries and wages were equal to 3.7 per cent, 1 per cent, and 1.5 per cent of the respective totals for all companies.

TABLE 12.—SUMMARY—OCEAN-CABLE TELEGRAPH SYSTEMS: 1917-1927

[Does not include financial data for the ocean-cable system operated by the Western Union Telegraph Co., no segregation of the financial data for the cable business of this company having been made, but data are included for number of companies or systems, nautical miles of ocean-cable, number of messages, number of cable offices, number of employees, and salaries and wages]

| | 1927 | 1922 | 1917 | PER CENT OF INCREASE OR DECREASE (—) | | |
|--|---------------|---------------|---------------|---|---------------|---------------|
| | | | | 1922- 1927 | 1917- 1922 | 1917- 1927 |
| Number of companies or systems..... | 7 | 6 | 7 | | | |
| Nautical miles of ocean cable ¹ | 105,893 | 76,711 | 71,251 | 38.0 | 7.7 | 43.6 |
| Number of messages..... | 13,986,939 | 9,602,559 | 6,451,228 | 45.7 | 48.8 | 116.8 |
| Number of cable offices..... | 136 | 140 | 114 | -2.9 | 22.8 | 19.3 |
| Income, total..... | \$20,137,346 | \$21,319,426 | \$16,749,058 | -5.5 | 27.3 | 20.2 |
| Telegraph traffic..... | \$17,906,677 | \$18,174,356 | \$15,677,176 | -1.5 | 15.9 | 14.2 |
| All other sources..... | \$2,230,669 | \$3,145,070 | \$1,071,882 | -29.1 | 193.4 | 108.1 |
| Expenses, total..... | \$12,322,507 | \$13,126,714 | \$11,042,189 | -5.7 | 18.9 | 12.1 |
| General operation and maintenance, including salaries and wages and legal expenses..... | \$10,665,989 | \$11,129,052 | \$7,975,458 | -4.2 | 29.5 | 23.7 |
| Interest and taxes..... | \$1,098,782 | \$1,482,125 | \$2,470,039 | -25.9 | -40.0 | -55.5 |
| All other expenses..... | \$617,736 | \$515,537 | \$596,692 | 19.8 | -13.6 | 2.5 |
| Net income..... | \$7,754,839 | \$8,192,712 | \$5,706,899 | -5.3 | 43.6 | 35.9 |
| Dividends..... | \$6,007,597 | \$3,572,806 | \$2,651,697 | 68.1 | 24.7 | 126.6 |
| Balance sheet: | | | | | | |
| Assets, total..... | \$160,218,793 | \$137,556,626 | \$136,610,271 | 16.5 | 0.7 | 17.3 |
| Plant and equipment..... | \$88,555,596 | \$72,631,927 | \$79,870,795 | 21.9 | -9.1 | 10.9 |
| Investment and marketable securities and long-term advances and miscellaneous investments..... | \$39,703,648 | \$46,963,941 | \$26,470,295 | -15.5 | 77.4 | 50.0 |
| Cash and current assets, including supplies and sundries ² | \$31,959,549 | \$17,960,758 | \$30,269,181 | 77.9 | -40.7 | 5.6 |
| Liabilities, total..... | \$160,218,793 | \$137,556,626 | \$136,610,271 | 16.5 | 0.7 | 17.3 |
| Capital stock..... | \$75,622,780 | \$72,738,000 | \$60,900,000 | 4.0 | 19.4 | 24.2 |
| Funded debt..... | \$4,165,000 | \$4,000,000 | \$28,000,000 | 4.1 | -85.7 | -85.1 |
| Reserves..... | \$53,424,134 | \$43,448,929 | \$33,035,608 | 23.0 | 31.5 | 61.7 |
| Accounts payable ³ | \$4,478,592 | \$4,021,326 | \$4,962,592 | 11.4 | -19.0 | -9.8 |
| Interest, taxes, dividends, and rents, due and accrued, and sundries..... | \$2,095,466 | \$5,680,817 | \$3,497,896 | -63.1 | 62.4 | -40.1 |
| Net surplus..... | \$20,432,821 | \$7,667,554 | \$6,214,175 | 166.5 | 22.4 | 228.8 |
| Number of employees..... | 6,595 | 6,333 | 4,347 | 4.1 | 45.7 | 51.7 |
| Salaries and wages..... | \$9,536,382 | \$7,425,163 | \$3,251,771 | 28.4 | 128.3 | 193.3 |

¹ In addition, the cable companies reported 7,211 miles of single wire on land and underground for 1927, 8,013 miles of such wire for 1922, and 1,452 miles for 1917. (Miles of pole line owned by ocean-cable systems, 1927, 2,089 and 1917, 116.)

² Includes data for land-line-system plant and equipment to the value of \$20,000,000. (See "Plant and equipment and funded debt," p. 13.)

³ Includes sinking and other special funds.

⁴ Includes data for land-line-system indebtedness to the amount of \$20,000,000. (See "Plant and equipment and funded debt," p. 13.)

⁵ Includes floating debt.

TABLE 13.—CONDENSED INCOME STATEMENT—OCEAN-CABLE TELEGRAPH SYSTEMS: 1917-1927

[Does not include financial data for the ocean-cable system operated by the Western Union Telegraph Co., no segregation of the financial data for the cable business of this company having been made]

| ACCOUNT | 1927 | 1922 | 1917 | PER CENT OF INCREASE OR DECREASE (—) | | |
|--|--------------|--------------|------------------------|---|------------------|------------------|
| | | | | 1922- 1927 | 1917- 1922 | 1917- 1927 |
| Telegraph and other operating revenues..... | \$17,906,677 | \$18,174,356 | \$15,677,176 | -1.5 | 15.9 | 14.2 |
| Telegraph and other operating expenses..... | 10,665,989 | 11,129,052 | 7,975,458 | -4.2 | 39.5 | 33.7 |
| Net operating revenue..... | 7,240,688 | 7,045,304 | 7,701,718 | 2.8 | -8.5 | -6.0 |
| Taxes assignable to operation..... | 882,740 | 1,321,290 | 1,305,664 | -33.2 | 1.2 | -32.4 |
| Operating income..... | 6,357,948 | 5,724,014 | 6,396,054 | 11.1 | -10.5 | -6 |
| Nonoperating income..... | 2,230,689 | 3,145,070 | 1,071,882 | -29.1 | 193.4 | 108.1 |
| Dividends and interest on stocks and bonds of other companies..... | 1,573,329 | 2,580,872 | 1,046,365 | 27.4 | 140.7 | 79.0 |
| Miscellaneous..... | 357,340 | 564,198 | 25,517 | -36.7 | (¹) | (¹) |
| Gross income..... | 8,588,617 | 8,869,084 | 7,467,936 | -3.2 | 18.8 | 15.0 |
| Deductions from gross income..... | 833,778 | 676,372 | ² 1,761,067 | 23.3 | -61.6 | -52.7 |
| Interest..... | 216,042 | 100,835 | ¹ 1,164,375 | 34.3 | -80.2 | -81.4 |
| Miscellaneous rentals and de- ductions..... | 517,736 | 515,537 | 596,692 | 19.8 | -13.6 | 3.5 |
| Net income..... | 7,754,839 | 8,192,712 | 5,706,869 | -5.3 | 43.6 | 35.9 |
| Disposition of net income: | | | | | | |
| Dividends..... | 6,007,537 | 8,572,806 | 2,651,097 | 63.1 | 34.7 | 126.6 |
| Appropriations for construction and other purposes..... | | 232,554 | 149,611 | | 55.4 | |
| Surplus, including appropri- ations for sinking and other reserve funds..... | 1,747,242 | 4,387,352 | 2,905,561 | -60.2 | 51.0 | -39.9 |

¹ Per cent is not shown when increase is greater than 1,000.

² Includes interest on \$20,000,000 land-line-system indebtedness. (See "Plant and equipment and funded debt," p. 13.)

GOVERNMENT TELEGRAPH AND CABLE LINES

This section presents statistics for those Government telegraph and cable lines which, although used mainly in connection with the transaction of Government business, also transmit commercial messages. All such lines, except those operated by the Weather Bureau, are located in or connect with the outlying possessions of the United States. With these Government lines the effort generally has been, with reference to commercial traffic, to provide a public service rather than to make the lines a source of revenue.

Weather Bureau—Report of Chief of Weather Bureau, 1926-27 (pp. 21-24).—The United States Weather Bureau operates four telegraph and telephone lines in localities where no commercial lines are available, primarily for the purpose of transmitting meteorological observations, weather forecasts and warnings, vessel and wreck reports, and general Government business. Following is a list of these lines:

Norfolk, Va.—Hatteras, N. C.—telegraph.
Beaver Island—Charlevoix, Mich.—telephone.
North Head, Wash.—Fort Canby—telegraph.
Tatoosh—Port Angeles, Wash.—telegraph and telephone.

The combined length of these four lines is approximately 287 miles, including about 40 miles of cable. The commercial telegrams transmitted numbered approximately 29,000; the Government telegrams 13,000; and the long-distance telephone calls, both Government and commercial, about 5,000. All the commercial traffic was handled on three lines, which reported a total revenue of nearly \$6,000. These figures relate to the fiscal year 1926-27.

The Coast Guard, Lighthouse Service, and Naval Communication Service cooperate with the Weather Bureau in the maintenance of these lines and make extensive use of some of them.

Because of their location, some of the Weather Bureau lines are of great benefit to logging, shipping, fishing, and other private interests. During the fiscal year 1927, 22,854 vessel reports and 13 wreck reports were transmitted by the Cape Henry, Va., office alone.

Outlying possessions.—In Table 14 are given statistics for the Government telegraph and cable lines located in or connecting with Alaska, the Panama Canal Zone, the Philippine Islands, and Porto Rico, these being the only Government lines which reported commercial business for 1927. Some of the employees reported were engaged in nontelegraphic work during part of their time, and, except in the case of the Philippine lines, the segregation of that portion of their compensation chargeable to the telegraph and cable work was necessarily estimated by the officials who made the reports.

Alaska.—The Washington-Alaska Military Cable & Telegraph System, operated by the Signal Corps of the Army, connects Seattle, Wash., with the most important points in Alaska. Although the mileage of line construction and that of single wire show decreases since 1922, the service has been extended through connection with the Navy Radio Communication Service. The Alaskan Cable System, which is owned by the Government, connects with the telegraph lines of the Government railroad and other railroads in Alaska and with nine privately owned commercial telephone systems in the Territory, all of which handle telegrams. More than 1,600 miles of new cable has been laid since 1922.

In addition, 53 radio stations, 5 telegraph stations, and 10 cable systems are operated in Alaska in connection with the Naval Communication Service. Of the total mileage of telegraph wire (519), 380 miles belongs to the Alaska

Railroad, 127 miles to the Alaska Highway Road Commission, and 12 miles to the Signal Corps.

The number of telephone systems in the Territory is 78 and the number of miles of telephone wire is 999.

The Alaska Cable System maintains 34 stations—22 radio, 1 telegraph, 3 cable, 1 radio and telegraph, 3 cable and radio, 3 telegraph and cable, and 1 cable, radio, and telegraph.

Panama Canal Zone.—The Panama Canal Zone telegraph system is operated by the Panama Railroad Co., which is owned by the United States Government. A complete telephone system covers the Canal Zone and the cities of Panama and Colon. Radio stations handling commercial business are located at each end of the canal. Messages may be sent through Panama Railroad stations.

Philippine Islands.—The report for 1927 of the Governor General of the Philippine Islands states that that year witnessed the establishment of telegraph stations in 13 municipalities and nine radio stations in isolated regions. Sixty-nine municipalities and barrios were provided with facilities for the delivery of telegrams through the telephone. Additional telegraph lines of over 1,056 miles in length were constructed and placed in operation. Eleven new telegraph offices were in process of construction. Nine radio stations were installed and 11 were being built. The Radio Corporation of the Philippines has put into operation a broadcasting plant and can now reach all parts of the archipelago. Transoceanic service was in process of being established. The Government was arranging to obtain a new and more efficient submarine cable to be used in establishing a fast telegraph route between Manila, Iloilo, and Cebu. With this additional route and operation of new radio stations at Davao, Zamboango, Iloilo, Cebu, and Manila, the southern islands will be brought into much closer contact with Manila. At the close of the year 444 telegraph offices (including 40 radio stations) were in operation.

Porto Rico.—The report of the Governor of Porto Rico for 1927 states that the Government owns and operates both telegraph and telephone lines in Porto Rico. Radio service is being added and extended. New lines are being added and new instruments obtained.

TABLE 14.—GOVERNMENT TELEGRAPH AND CABLE SYSTEMS—OUTLYING POSSESSIONS: 1917-1927

| | ALASKA | | | PANAMA CANAL ZONE | | |
|--|----------------------|----------------------|----------------------|-------------------|---------|---------|
| | 1927 ¹ | 1922 ¹ | 1917 ¹ | 1927 | 1922 | 1917 |
| Miles of pole line..... | 12 | 470 | 840 | --- | --- | 10 |
| Miles of single wire..... | ² 12 | 840 | 1,219 | 470 | 470 | 212 |
| Miles of submarine cable..... | 2,529 | 2,669 | 2,878 | --- | --- | --- |
| Number of employees..... | ³ 223 | ⁴ 307 | ⁵ 251 | 15 | 15 | 36 |
| Salaries and wages..... | \$308,460 | \$432,200 | \$266,480 | \$1,500 | \$1,500 | \$7,628 |
| Expenses, total, including salaries and wages..... | \$901,995 | \$525,132 | \$350,000 | \$3,361 | \$3,147 | \$9,242 |
| Income from commercial business..... | \$446,276 | \$176,226 | \$200,958 | \$4,058 | \$4,121 | \$2,810 |
| Number of messages..... | ⁷ 275,473 | ⁷ 211,337 | ⁷ 222,943 | 33,150 | 33,132 | 30,810 |
| Government..... | 59,483 | 73,792 | 65,638 | --- | --- | 139 |
| Commercial..... | 215,990 | 137,544 | 156,675 | 33,150 | 33,132 | 30,171 |

| | PHILIPPINE ISLANDS | | | PORTO RICO | | |
|--|------------------------|------------------------|----------------------|------------|-----------|-------------------|
| | 1927 | 1922 | 1917 | 1927 | 1922 | 1917 ¹ |
| Miles of pole line..... | 4,793 | 5,227 | 4,872 | 266 | 195 | 426 |
| Miles of single wire..... | 3,992 | 6,434 | 5,629 | 2,439 | 911 | 1,551 |
| Miles of submarine cable..... | 696 | 850 | 956 | --- | --- | --- |
| Number of employees..... | --- | --- | --- | 265 | 212 | 196 |
| Salaries and wages..... | \$421,181 | \$428,659 | \$294,754 | \$181,968 | \$102,446 | \$68,685 |
| Expenses, total, including salaries and wages..... | \$537,106 | \$648,009 | \$372,162 | \$162,490 | \$126,358 | \$91,995 |
| Income from commercial business..... | \$680,663 | \$610,653 | \$418,769 | \$134,720 | \$82,180 | \$104,472 |
| Number of messages..... | ⁷ 1,372,873 | ⁷ 1,210,099 | ⁷ 913,650 | 406,129 | 232,871 | 277,140 |
| Government..... | 80 | 113,563 | 127,885 | 5,421 | 21,451 | 11,200 |
| Commercial..... | 1,372,797 | 1,096,536 | 785,765 | 400,708 | 271,420 | 265,940 |

¹ Fiscal year ended June 30.² Of the total Government-owned mileage of telegraph wire (519 miles), 330 miles belong to the Alaska Railroad, 127 miles to the Alaska Highway Road Commission, and 12 miles to the Signal Corps.³ Includes 169 enlisted men, United States Army.⁴ Includes 251 enlisted men, United States Army.⁵ Includes 206 enlisted men, United States Army.⁶ Not including data for salaries and wages paid for telegraphic services relating directly to railroad transportation.⁷ For 1927, land messages, 19,272; ocean-cable, 227,523; wireless, 28,673; for 1922, land messages, 35,187; ocean-cable, 156,607; wireless, 19,573; and for 1917, land messages, 44,467; ocean-cable, 166,788; wireless, 11,118.⁸ Includes data for telephone systems. So far as reported separately, these are as follows: Pole line, 100 miles; single wire, 803 miles; operating revenues, \$36,731; operating expenses, \$30,367; long-distance calls, 90,340.⁹ Includes, for 1927, 2,923 radio messages to ships; land messages, 1,363,261; and ocean-cable, 6,686; for 1922, 719 radio messages to ships; land and ocean-cable messages not reported separately; for 1917, 35 radio messages to ships; land and ocean-cable messages not reported separately.

COMMERCIAL WIRELESS SYSTEMS

The following-named commercial wireless-telegraph companies reported for 1927:

Mackay Radio & Telegraph Co., formerly Federal Telegraph Co.
Independent Wireless Telegraph Co.
Intercity Radio Telegraph Co.
Radio Corporation of America.
Tropical Radio Telegraph Co.

The earliest census statistics for wireless telegraphs relate to the year 1907. Table 15 presents summary figures for the five census years from 1907 to 1927.

Comparability of statistics for 1917 with those for preceding and following years.—As explained in footnote 1, Table 15, the 1917 figures for number of messages and certain other items do not show the actual amount of business done during the year, for the reason that they represent only the operations of the land stations during the first quarter and of one company during the entire year. No complete record of the number of commercial messages transmitted under Government operation was kept. The report of the Secretary of the Navy for the fiscal year 1917, however, contains the statement that the traffic from April 6 to June 30, 1917, through the stations formerly operated by the commercial companies, aggregated 103,737 messages, of which number 14,797 were official and 88,940 were commercial. The addition of these 88,940 commercial messages to the 122,244 shown in Table 15 gives a total of 211,184 for the first six months of 1917; and if the number of commercial messages sent during the remainder of the year was approximately the same, the total for 1917 would amount, in round figures, to 420,000, representing an increase of nearly 50 per cent as compared with 1912. The number of messages reported for 1922 represents a great increase—approximately 460 per cent—over the estimate for 1917, and the number reported for 1927 represents an increase of nearly 800 per cent for the 10-year period 1917–1927.

The reduction in the number of tower stations from 117 in 1907 to 55 in 1927 was made possible by the development of high-power sending apparatus.

Radio telegraphy and telephony, and particularly the latter, have become established modes of communication for many commercial organizations in the conduct of their business. In regions where it would be difficult or impossible to construct and maintain wire lines, the problem is solved by the use of radio. Among the industries thus benefited are fishing, mining, and lumbering.

Government radio stations.—The Government maintains 141 land radio stations, 63 ship radio stations, and 8 leased-wire telegraph stations in Alaska; and 13 radio stations in the Hawaiian Islands, 7 in the Canal Zone and Panama, 3 in the Virgin Islands, 3 in Samoa, and 1 in Guam. These are units of the Naval Communication Service, with headquarters at Washington, D. C. The War Department at Washington communicates by radio with more than 300 garrisons, posts, camps, and stations.

TABLE 15.—SUMMARY—WIRELESS TELEGRAPH SYSTEMS: 1907-1927

| | 1927 | 1923 | 1917 | 1912 | 1907 | PER CENT OF INCREASE OR DECREASE (—) | | | |
|---|----------------|----------------|------------------|------------------|------------------|---|------------------|------------------|---------------|
| | | | | | | 1922- 1927 | 1917- 1922 | 1912- 1917 | 1907- 1912 |
| Number of companies or systems..... | | | | | | | | | |
| Number of messages..... | 3, 777, 538 | 2, 365, 109 | 1 122, 244 | 285, 091 | 154, 617 | 59.7 | (⁵) | -57.1 | 84.4 |
| Number of tower stations..... | 55 | 37 | 63 | 74 | 117 | 48.6 | -41.3 | -14.9 | -36.8 |
| Income, total..... | \$24, 829, 340 | \$8, 111, 102 | \$1, 385, 060 | \$669, 158 | \$103, 701 | 206.1 | 455.6 | 107.0 | 526.6 |
| Revenue from transmission..... | \$6, 226, 188 | \$4, 207, 785 | (⁵) | (⁵) | (⁵) | 48.0 | | | |
| Other operating revenues..... | \$14, 791, 566 | \$3, 644, 201 | | | | 305.9 | | | |
| Nonoperating income..... | \$3, 811, 587 | \$289, 116 | | | | (⁵) | | | |
| Expenses, total..... | \$12, 866, 636 | \$5, 111, 574 | \$1, 775, 534 | \$604, 420 | \$100, 329 | 151.7 | 559.1 | 16.7 | 314.4 |
| General operation and maintenance, including salaries and wages and legal expenses..... | \$5, 110, 264 | \$3, 534, 474 | \$1, 540, 891 | \$538, 712 | \$117, 480 | 44.8 | 553.5 | -8.1 | 401.1 |
| Interest and taxes..... | \$249, 435 | \$153, 457 | \$7, 826 | \$7, 826 | \$5, 562 | 50.4 | 227.3 | 510.9 | 40.7 |
| All other expenses..... | \$7, 506, 937 | \$1, 420, 643 | \$135, 837 | \$67, 882 | \$37, 287 | 428.0 | 660.4 | 175.2 | 82.1 |
| Net income..... | \$11, 962, 704 | \$2, 998, 528 | \$998, 526 | \$4, 738 | | 298.8 | 392.1 | (⁵) | |
| Deficit..... | | | | | \$53, 538 | | | | |
| Balance sheet: | | | | | | | | | |
| Assets, total..... | \$31, 147, 512 | \$40, 494, 909 | \$14, 483, 638 | \$10, 377, 197 | \$32, 968, 807 | 74.5 | 221.0 | 39.6 | -68.5 |
| Plant and equipment..... | \$35, 751, 904 | \$34, 716, 814 | \$9, 375, 261 | \$1, 205, 770 | \$317, 614 | 3.0 | 274.3 | 689.2 | 279.6 |
| Investment and marketable securities, long- term advances, and miscellaneous invest- ments..... | \$17, 711, 483 | \$1, 225, 169 | \$2, 040, 504 | | | (⁵) | -40.0 | | |
| Cash and current assets..... | \$19, 312, 933 | \$1, 479, 337 | \$1, 479, 337 | | | 336.2 | 199.3 | | |
| Materials and supplies..... | \$6, 831, 530 | \$1, 395, 871 | \$1, 395, 871 | | | 16.1 | 321.5 | | |
| Sundries..... | \$1, 387, 242 | \$241, 219 | \$392, 565 | \$9, 171, 427 | \$32, 196, 456 | 475.1 | -17.6 | | -71.5 |
| Deficit..... | \$152, 430 | | | | \$444, 827 | | | | |

See footnotes at end of table.

TABLE 15.—SUMMARY—WIRELESS TELEGRAPH SYSTEMS: 1907-1927—Continued

| | 1927 | 1922 | 1917 | 1912 | 1907 | PER CENT OF INCREASE OR DECREASE (—) | | | |
|---|--------------|--------------|--------------|--------------|--------------|---|---------------|---------------|---------------|
| | | | | | | 1922- 1927 | 1917- 1922 | 1912- 1917 | 1907- 1912 |
| Liabilities, total..... | \$81,147,512 | \$46,494,902 | \$14,483,038 | \$10,377,197 | \$32,938,807 | 74.5 | 221.0 | 39.6 | -68.5 |
| Capital stock..... | | | | | | | | | |
| Paid and long-term debt..... | \$38,174,134 | \$36,034,300 | \$10,399,500 | \$9,602,570 | \$32,670,242 | 5.9 | 246.5 | 8.3 | -70.6 |
| Floating debt..... | — | \$235,000 | \$276,316 | — | — | — | 39.5 | — | — |
| Accounts payable..... | \$320,981 | \$659,280 | \$612,537 | — | — | -51.3 | 7.6 | — | — |
| Reserves (depreciation and other)..... | \$11,435,638 | \$3,254,558 | \$979,103 | \$287,866 | \$282,655 | 251.4 | 232.4 | — | 1.8 |
| Interest, taxes, and rents, due and accrued, and sundries..... | \$17,200,680 | \$4,146,280 | \$692,538 | — | — | 325.9 | 453.4 | — | — |
| Surplus..... | \$5,746,973 | \$1,172,699 | — | \$313,777 | — | 390.1 | — | — | — |
| Number of employees..... | \$3,262,186 | \$508,835 | \$1,423,324 | \$172,964 | — | 921.4 | -43.2 | 722.8 | — |
| Salaries and wages..... | 1,985 | 1,258 | 586 | 953 | 176 | 57.8 | 114.7 | -38.8 | 444.3 |
| | \$2,593,170 | \$2,065,506 | \$1,461,402 | \$393,606 | \$81,771 | 22.1 | 354.2 | 17.2 | 381.4 |

¹ Incomplete. The statistics for 1917 relate only to the first quarter of the year, or until the stations were taken over by the Government for operation during the period of the war, except that the operations of the ship stations of 1 company are covered for the entire year.

² Included 5,013 land messages sent over a leased wire by a wireless company doing a land-telegraph business also.

³ Per cent not given when increase is greater than 1,000.

⁴ Figures not available.

⁵ Includes sinking funds and stock and bond discounts.

⁶ Includes premium on capital stock and funded debt.

APPENDIX

SCHEDULE USED IN SECURING DATA FOR TELEGRAPHS

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